								Months	*****	and the parties		
han a magazine	Januai		8. 12. 9	!	Februat		2. 9.	11-	Maio		7. 12	
Weather	·	Baron	n. Rain	. Weat	her. Winds.	Barom:	Kain.	Weathe	Winds.	hiroi	===1	ia.
roft	W.S.W.	30.	07 07	Froft				Cloudy	s. w.	30.	1	
air			04		į	30. 06		Fair			20	
A:Oina	S.		05	Cloud	N. E.	05		Cloudy Warm	W.S. W. S. W.		18 19	
Milling	٥,		05	Frost		29. 95		Spring			14	
og	S. by W.		07	Cloud Froft	y N.E.byE. E.	75 66		Fog	S. W.	29.	02 95	
loudy	S.		11	Calm		50		Fair	W. by S.		88	
•:0:	c		- 3	O Cloudy Thaw	E. by S.	30	. 02	Mist Rain	s.w.		75 69 3.	12
lifling	S.		18	Sleet		20	. 02	Fair			65	
alm		-	22	Snow Fair	E.	20	. 03	Fair Colder	S.W.		71	
and loudy	W. by S. S. W.		23 26	Frost	L.	19	,. ∪ ₃	Johner	S.		7° 46	
og			22	Froft	N. by E.	०५		Rain	S. W.		20	_
Varm	w.		0. 3	O Cloudy Snow	N.	28. 90	. 03	Bluster. Fair	w.		120.	85
lilling_	W. by N.		05	Snow	- N.	86		Fair	w.	 	48	
loudy	N. W.		05	Cloud	y W. by S. S. by W.		. oı	Colder Blufter.	W. by N. W.		57 60	
	N. W.	29.	94	- Fairer	3. Uy VV.	83		Frost	N.W.	30.	01	
loudy	N. W.	-/-	90	Sleet	S. W.	'1	. 01	Fair	N. N. by E.		11	
ւոքի.			82\ 51	- Thaw		29. 90		Frost	E.		15	
ain	S.		38	Froft	S. W.	18		Fair	w. s. w.		14 c8	
oft	S. W.		02	Frost	S. W.	43		Mift.	3. W.	29.	95	
haw	S.	2.	00	Fair	S.W.b.W.	52		Fair	S.W.byS. S. by W.		90 76	
ain	S. by E.	-	95,0. 70	_ []	.01 5			Mift	1S.	<u> </u>		
loudy air	N.	29.	46	Snow Rain	S. by E. S. E.	76	0. 27	Froft	w. by S.		65 64	
411	14.		77	Fair -	E.	94		Cloudy Rain	N.W.		60	
leet	N.		83	Froft	y E. by S.	30. 08		Fair	w. s. w.		47 35 21	
icci		7.		_	<u> </u>	08		Rain	W. by N. N. by W.		18	
loudy				Thaw Warm	S.	00		Rain	N.		250.	32
			91	Cloud Calm	<u>y</u> .	29. 95		Frost	N. N.		35	
now	N. E. N. E.		95 95 3. 2	II pain	S. by W.		o. 40	Fair	w.		6 0,0.	02
110 11	E. N. E.	1.	68	Mift	$-\frac{S_{\bullet}}{N}$	85		Cloudy Fair	<u>W.</u>		48 _	
rost loudy	E. N. E. E.	1	94 92	Warm		8 ₅	ე, ვე	Blufter.	w.		48	
10utty	-		90	Rain	E	80		Storms	1] ————————————————————————————————————	281	Marian,
	E. N. E.		90	Cloud		54		Fair			04	_
loudy	N.E.b.N.	1	91 94	Fair	W. S.W.	62 6	28	Hail Snow	W.	28,	04°0.	8
roft	N.	30.	02	Rain		50		Froft		29.	16	
loudy alm	N.N. W.	1	04	Fair Rain	3,	520 52	. 20	Fair	N. W.		3º	

05

E. by S. S.

S. E. E. by S.

Rain

Fair

Froft

W. by S. N. W. S.W.byS.

S. S. E.

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43

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The farr

The fam

Froft Fair

Frost Snow

19

air Froft

ter, and Quantity of Rain falling every Day at Upminster, in Essex, Thousand Six Hundred Ninety Seven.

	Apr	il. 6. 12 9	1	May	·. 6.	12. 9.	1	June	. 6. j	2. 9
Weather		Barom. Rain.	Weather			Rain.	Weather		Barom.	-
Cloudy Warm Fair	N. E. o	29. 83	-				Fair Hot Rain	S. o	29. 66 56	
Fair	N. I. N. E. 2	88 88 87					Rain Shine Rain	S. 0 S. 1 S. 1	42 29 10	o. 44
Fair Want of Rain	NE.b.E.1 E. 1	83 82 82	-				Fair Showers	S.by W.o S. 1 S. 1	03 04 02	
Milling Cloudy Fair	N. 0	75 68	*				Cloudy	S. W. 2 S. 1	18 38 58	
Cold Fair Milling	N. by E.	68 68 74					Cloudy Sultry Hot	S.by W.1	72 83 85	
Fiost Fair	Е.	73 71 68		÷		,	Rain Thunder	E. by S. E. o	74	1. 13
Frost Dry Sea- fon Frost	E.	65 67 70					Fog Fair Hot Fair	S. by W. S. W. I S.W. W. S.W.b.W	71 72	
Warmer Fog	E.	71 70 71 66				_	Cloudy	S. o	, 5 6	
Fair Cloudy Warm	W. E. ○	64 64				-	Fair Rain	S. 1 S. 0 S. by E. 0	48 5	<u></u>
and Fair	E. by S. 1	60	•			1	Fair	S. by W.1		20
	E. 0 E. 1 N. by E.2						Fair	S. S. E. 0	75	
Fair Cloudy Rain	N. N.E. 2 N. by E.	67					Cloudy Fair	N. W. 1 N.W.b.W N. W. 0	55	5
Cloudy Rain	N. E.	7 ² 2. 38 78 0. 30					Fair Fair	W. o S. W. o S. W. o	3-25	4
Fair	N. N.E. o E. by N.o	76			and the same of th		Rain	E. 0	3	
Fair Warm Spr. Day	E. 1	77 77 73			- Palanes (Santanas)	A CONTRACTOR OF THE PROPERTY O	Mifty Fair Hot	E. 0 N. b.W.4	6.	
Fair Cloudy	E. o N. o	73 75 86					Cloudy	N. I	7 9	8 0. cr
Szir	N.byW.I		Cloudy Milling Bluftr.	S. W. 2	29. 6	5 3. 0	Cloudy Fair Sultry	N. W. r W.o	99	0
Fair Hot Day.	N. 0 E. N.E. 0	91	Rain Fair	W. 2 W.byN.	5	7 5 0. 19	Very Drough- ty.	W.by S.a W.by S.a S. W. o	9	8
The fame		93 8 0	Fair	Wiby S.1 E. 1	7 8 9	5	Hot Rain	S.W.b.W. N. by E. 1 N. E. 0	9	10. 22
The fame	E. 0 S. 1	69 60	Fair	E.by N.o N. 2		9	Cloudy	N. by E.	, -	2 .

			Fair	J.	33° 05 39		S.W.byS.	43
eair Eroft Joudy	s.w.b.w	20	Froft	S. E. E. by S. E.	46 46 40	Snow	S. S. E. S. E.	4- 37 0- 52 25
			Fair	E.	36) 37 45	Bluff. Cloudy Hazy	E.by N. E.by N. N.N.E.	°7 10 24
Cloudy Thaw Vain	W. by N.	9. 95 900. 08 95	Rain Fair	E.	47 48 52		1	
aroft Snow Pair	N. W. N. W. N. N. W.	90 800. 30 68	Hoar Froft Fair Rain	E. S. S.	52 54 60	Froft	N. E.	40,
Storm Snow	N.W. by W. N. N. E. N. by E.	64 67 78 95	Fair Rain	S. by W.	68 75 0. 04 81	Frost Fair	N. N. N. W. N. by E.	70
eroft Fair	E. by N. N. E.	95 97 98	Cloudy Bluster. Fair	S.	84 85 88	Frost Fair	N. by E. 1 S. 1 S. 0	78 30. 02 11
Sharp Frost	N. E. N. by E. N. N. E.	96 96 86	Fair Cloudy Rain	S. W.	88	The Same	E. 0 S.E.b.E.1	11 10 04
Froft	N. E.	77 77 74	Missing Fair Calm	S. S. W. S. S. W.	93 97 98	Same	E . 0	29. 97 98 30. 07
Cloudy Froft	N. E.	65 60	Cloudy Fair Cloudy	s.w.	30. 01 01 0. 03 40	Same Hazy	E. o E. o E. 1.	13 15 20
Snow Thaw	S. S. W.	47 31 0. 08				Cloudy Cold	NE.b.N.6 N.N.E.1	14 12 12
Frost Fair	S. W. W. W. by S.	41 50 54				Cloudy Warmer	N. I N. N. E.	12 12 05
Frost Fair	W. N. N. W. N. by W.	77 0. 05 86 95 3. 61			Total 1. 80	Cloudy	N. I N. by E.	96 0. 02

Place this between Pag. 48, 49.

I IIC IAIIIC	L. 1	80		rair	L. I	8 9	5	Rain	N. E. o	910. 22
The fame	E. 0 S. 1 S. 0	69 60 52		Fair Cool	E.by N.o N. 2 N. by E.c	30, 0	9	Cloudy	N. by E.2	92 92 95
Cloudy Fair Rain Cioudy Rain Fair Fair Rain Fair Rain	E. by S.0 E. by S.1 S. by E. 1 E I S. I S. E. 0 E. 0 S. by E. 1 S. E. 1 S. E. 1 N. N. W.	35 21 0. 10 08 05 2. 15 0. 20 22 0. 27	30 62 06	Cloudy Cold Fair The fame	N. o N.by E. I N. by E. o N. by E. o N. by E. o E. o E. by N. o E. by N. o N. by E. o	29. 9	7) 88 1 1 77 77 22 88 83 88 188 188	Cloudy Much Cooler Fair Cloudy Rain Fair Great Drought	N. o N. E. I N. o E. I NE.b.N.o N. o E. I	30. 00 02 01
Thunder Showers Fuir	E. by N. E. c.	34 28 27 0. 18		Most Hot and Dry	E. 0	8	8	Cloudy Dry	N.E.b.Eo N. E. 1 E. 1	78
Cloudy	S.	14 0.	65	The fame	E. o E. I E. o.	8	3 3	Sultry	E. 0	71 0. 05
				Fair Little Rain Fair Warm	N. 0. N. 1. N. 0			Mist Rain Thunder Mist Hot and		74 73 0 29 74 1 8 1 8 3
				dair Hot	S. o. S. o. E. o E. I	7 7 7	3	Dry Dry Eurning Day	E. 0 E. 1 S. 0	85 85 85 87
		0.	8 ₉	The fame	E. S. 0	7 7 8	6	Fair Rain	S. W. o	88 0. 97 88 80 0. 31
		Total 7.	53	The farre	S. 0	7:	3. 20			Total 4. 91

Philosoph. Transact. Numb. 237. Iab. 1.

A Register of the Weather, Winds, Height of the Mercury in the Baromete the last Six Months of the Year One T

					(1)	e taji		TATAULUS	of the	1841	
_	,	Jul	v. 6. 12. 9). []	Auga	ft. 6.	12. 9		Septemb	er. 6. 1	2 9.
=	Weath	er Winds.	Barom. Rain.	Weath	er Winds.		Rain		Winds.	Barom.	Rain.
1	Rain	SSW SWI	29. 75	Cloudy	S. by E. :			Fair	E. by N. 1 N. E. 2	29. 98 30. 00	
	Fair	S Wo	72 70 0. 24	Rair	S. by E.:	65		Cool		29. 98	
2	Same	SWo	57	Fair Shower	S. by E. c W.by S. i		O. 51	The fam	NE.b.N1 N. E. 2	93 92	
_	24111C	SWI.	590. 22	Fair	· _ ·	63 0	40			90	
3	Fair	W b. N		Rain Cloudy	S. by E 2 W. 3	71.	,	Hot Sun but	E. i	88 88	
_		Wo	.75	Fair Rain	S.W.b.S1		0. 05	Cool Ai	E. o	89	
4	Cloudy Fair	S W I	85 85		S.by W.2	. 65		Warmer	E. 2	84 84	
-	Hot	$\frac{ SW }{W \circ}$	85	Fairer Rain	W. I.	60 I	00	Air Fair	E. I	80	
5	Fair Cool	Wo	87	11	S. W. 2	50			E. 0	78 80	
	Breezes	Wı	99	Fairer	S. W. 1	490	· 79	Hot	1	83	<u></u>
.5	Hot Dry	W.o W.by S.1	29· 95 94	The fame	S. by W.o.	47 41		Mift. Fair	E. o S. by E.o	83 85	
	Day		90	Cloudy	S. by E. o	4ç :	. 22	Hot		87	
7	Fair Hot	W.byN.o		Rain	E. by N.1	51 5 5		The fame	S. 0 E. 2.	85 83	
_	Rain	W by S.o	790. 12	Fairer	E. N. E.1 N. 2		07		E, 0	80	
8	Milling Rain	S. W. 1 S. W. 2	68 60	Rain	N- 1		. 0	The fame	E. 0	73	
	Cloudy Rain	S. S. W. I S. W. I	44 0. 32	both	N· 2 W· 2.	35 2	. 91	Fair	E. by N. I	70	
9	Cool	S. W. 1	43	Days	W.by S.1	42 0	- 1	Cooler	E. by N. 2	68 65	
1 1	Fairer Fair and	W.NW.o	47 ° 77	Cloudy	W. I.	48 2. 60 0.		Cloudy	E. 1.	56	
	Cool	W.by N.o. W. 1	7.	Rain Fairer	N. W. 2 W. 1	65 75 0.		Rain	S. 2	43 39	İ
-	1) *** *** *** * * * * * * * * * * * * *	N.W.b.W	831	Fair 1				Natti	· · ·	400	. 10
	Rain Warmer	s. w. 1	85 85	Pleafant	W. o. W. 1	77 80	l	Showers	S. by E.c. W.S.W.1	3	. 1
_			93.0. 50	Day Cloudy	W.N.W I W.by N.o	82		Fair	5	601	
2		S.W.b.W	30. 00	1 1	W.by N.o	82			S. 0 S.by W.2	75 0. 77 70	07
_]	fair			Fair Mift	N. 0	<u> 8</u> 등		Cloudy Rain	S. 2.	70 49	
2	and			Cloudy Rain.	W. by S.1	89 83 0•		Fair	S. 3	38 63 I.	
	Ho t Fair	S. 0 S. 0	29. 98	Cloudy	S. by W. 1	781	55		S. 0	63 I.	54
4	i	S.by W.1	88 90	Fair	W. 2 W. 2	88	- 11	Rain	S. 2 S. 4	50	
	Cloudy Rain	S. W. 1 N. b.W. 1	84	Cloudy	S. W. 1	84		Fair	5. W. I	32 <u>46</u>	
5 (Cloudy Fair	W. 1 N. W. 0	850. 48 90	Little Rain	W.by S.2 S.W.b.W.t	8 i 75		Rain	3	30 30	
- 11				Cloudy	-	70		Fair			
5 [Rain	W. I N.M b.W	95 94	Fair Cloudy	S. r	62		Cool	S. W. 4 W.by S.6	28 ₁ 32	
11	Thunder Fair	W.byN.o	920. 42	Gloady	S. 0	<u> 53</u> 48		Cloudy Fair	W. J	34	
7	and	N.o	93			,	11	Cool		45	
,,,		N.N.W.o N. W. 1	93						o E. by S.o.	75	
3 🚺 🤇	Cloud y	l	98					Rain	S. S.W. 2	55 34.3•	10
	Milling	N. 1 N.	98					Fair	S. W. 2 W.byN.o	38	60 —
9	Now's		30. 000. 62					Cloudy	S. W. 1	50	

arometer, and Quantity of Rain falling every Day at Upminster, in Essex, One Thousand Six Hundred Ninety Seven.

[2 . 9.	1	Oaob	er. 7.	12. 9						Decembe	er. 8.	12. 9.
Rain.	Weather	Winds.	Barom.	Rain		r. Winds.	Barom.	Rain.	Weather	Winds.	Barom.	Rain.
U. A CIRCLETO	Cloudy Mifty Warm	N. W. o S. r S. o	29. 75 7 ⁸		Millling Milty	S. 1	30. 1	1	Hard Frost and Fair	W. b. N.0 W. b. N.2	29. 86 87 89	7 -
1 - 170, 211, 2000, 212, 2000	Rain Cloudy Warm	3. 0 S. by E.c	77 75). 10	Fair Warm Pleafant	3.S.W.o W·by S.o	; i :	-	Same	N. 1 N. 0	90 94 99	
	Cloudy	S. by E.c S. 1	7 ^C 51 4 ^C		Fair Colder	W. o W.by S.o	04		Same	N. 0 N. N.E.0	30. 05	
	Rain Fair Cold	SWb.W1 S. W. 2	51). 72.	Fog Cloudy Cold	SW.b.5.2	88		Cloudy Snow Half Inch	N. W. 1 N. N.W.1	29. 98 89	
	Rain Rain	S. 4 S.by W.2	28. 98	[. I2	Day Rain Fair	S. W. 2 W.b. S.2		0. 50	Cloudy Fair	N.b. E. 2 N. N. E. 1	૦ 6	
<u> </u>	Rain Stormy	S. 1 E.&W.S.	29. 13 16 28. 97	o. 57	Rain —	W.byN.1			Snow Fair	NW.b.N3	29. 98 99	
	Fairer Rain	S,&c. 6 S. by E. 1 N. 1	29. 28 08 13	1. 36	Cold Cold	·	30. 00		Snow 6 Snow 8	N. W. o S. o	30. 00 29. 93 71	
	Fair Rain Cloudy	W. I S. 2.	58 66	2. 52	Cloudy Day Frost	E. by S.0			Inches Fair	Εο	68 84 87	
	Stormy Stormy	S. W. 4 5 S. W. 8	44	0. 10	Fair Hard	E. S. E. o	30. 10		Snow		85	
	Fairer Fair	W.S.W.4 2 SWb.Wo	51 66 88		Frost Fair Cloudy	E. 0	01		Thaw Frost	S. b. E. 1 E. N. E.0	53 42 55	
. 10	and Pleafant	W.by S.o			Frost Fair		04		Snow	E. 0 2	57 46	3. 62
l li	and	W.by S. O	20 21 18		Rain Fairer	W.by S.1 N. 2		o. 78	Rain Warm Thaw	E. S. E.2 S. b. W.1	10	2. 76 5. 90
. 07	Frost S	SWb.Wo	17		Rain Fair Frost	N.byW.2 N. I	7016 68	0. 02		S. by E. 2 S. 2	14	0. 42
اليما	Fair	W. 1	20		Rain Cloudy Froft	N. I	63	0. 09	Fair Warm Pleafant	S. W. 3 W.S. W3	33 50 61	
		W.by S.o W.N.Wo	18		Snow Sleet All Day	N. E. 2 N. I	40°C	o. 82	Cloudy Warm	S. W. 1 W. S.W.1 W. S.W.0	68 67 65	
		W.by S.o N. W. o	I 2 I 2 I 0		Frost	W.b.s.o	64		Mifty 1	E. 1 E. by N.0	64 64 65	
-	Cloudy Fair	W. 0 N.W.2	061	14	Hard Froft	NbyW.2			Froft	E. by N. 1	58	
	1	V. by W. V. by W. o V. by E. 1	27 30		Fair The fame	N.b. W.2	30. 04 03 03		Fair Frost Cloudy	E. 0	59 57 56	
	Fair	N. by E. o	34 -32 33 27		The fame	N.N.W.1 N.N.W.0	29. 92 91		Fairer Mist	E. 0	62 64	
63	Hoar Fr.	E.by S.o S. W. o N. by E.o	27 22 28 30		Snow Sleet Bain	S. S. W.2	76 26		Cloudy Warm Day	E. 1	72 70 68	

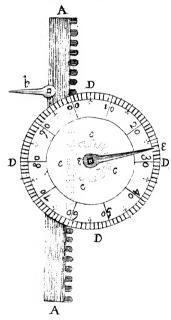
Rain Milling	N. I	98					- '	-	Fair	S. W. 2 W.byN.o		10 Í. 38	
Cloudy	3 3	o. oco.	62						Cloudy Rain	S. W. 1		50 32 0.	56
Showry	W.by S. 1 2			Fair GreatStor. Thun Ra.		6	o 1. 8	38	Rain Fair	S. W. 3 W.S.W3		05 02 210.	
Bain	W.byWI	75		Cloudy			0	-	Cloudy -	w.s.w ₃		35	
Fair Milling	W.byN.t	71 60	•	Rain Cloudy	S. I		0 I 0.]	13	Rain Cold	S. I S. W. I		31	
Mifty	S.W.b.W	• 48		Cloudy Missing	W. byS. 0 W. 1.		4		Fair Shower	S. W. 2		24	
Rain Fair	S.W.b.So	500.	45	Fair	w.	9	0	_			=	380.	. 09
Fair Cool	S.by W.o	50 48		Fair	W.by S.0 W.by S.2	. 8	38	-	Fair	S. W. 1	1	51	
Day	8.0	48		Cloudy Fair	S. W. 2.		34	_	Rain	w.n.w.		74	
FairThun Great Sh.		50 56			S. W. 1			- [Fair	S. W. 0 N.		87	
with Hail	& S	60 I.	02	Sultry Cloud y	S.W.b.S1		70		Rain			87	
Fair Pleafant	W. o N. W. 1	65 72	1	Fair	S.W.b.S ₂ S. by W. ₂	6	57		Cloudy	E. 0 S. E. 2.		660.	
Day	W.S.W.o						54'	_	Milling	<u> </u>	<u> </u>	3810	. 30
Fair Cloudy	w.byS.o	76 76	1	Rain	S. 3 W.by S.3	2	31		Fair Rain	N. E. 0 E. 1		38 40	
Milling		69		Fair		5	40.	53	Cold .	-		39'0	. 24
Cloudy and	S.by W.o SE.Sb.W	63 60	1	Fair	S. W. 1 W.by S.2	9	31	1	Fair Cloudy	E. 0 E. by N. 1		27 25	
Cool	E. by N. 1 N. N. E.2	60,			S.S.W.0	9	8	_	Rain Fair	N. E. 1		300	. 84
The fume	e E. by N.2	58 62	1	Fair	S. S.W. 2	9	94 94		Cold	N. by E.3		1	
Fair	N. I	69 70		Cloudy	S. W. 0		95	-1	Day Hoar	N.byW.1		56	
Cool	N. 2	76 90		Sultry Very Cl.	E. 0	9	99	1	Frost Fair	N.byW.1		70 78	;
Day	N.byW.o	77			N. E. o	·	03		Ice	N.byW.o	!	80	
The same	e W.byN.1	30. 00		Fair		ĺ		1	Fair Cloudy			82	, 2;
Cloudy	S. by E. I 2		20	Fair	1		1	-				_	
	S. S. E.I S. I	86 - 79 6.	19	and Air sharp	1		1 13.	=		Ì			0.4

Place this between Pag. 48, 49.

60	Conter	E.by 5.0	27		i			76 ¹	1		i i		72!
-		S. W. o	22		Snow	S. S. W.2		26		Cloudy Warm	E	The suffrage distances	70
	Fair	N. by E.o	30	•	Sleet Rain	,	28	83 1.	20	Day	E. 1		68
56		N. W.	28		Cloudy	N.b.W.2		82		Fog	E. 2		50
	Cold Rain	S. W.	26		Sleet	N.b.W.3		82		Cloudy			
14			23		Cold		***************************************	930.	01	Colder		-	44
	Cloudy	W. S. 1 W.by S.1	15		Cloudy	N. W. 2	•	93	- Comment	Rain	1_ 1		450. 23
	Fair	w.ay 3.11	20		Snow	W.by N.1		90 0.	18	Cloudy Cold	E. 1.		51 620. 17
[W.by S.o	25		Froft	N. 0		95		Rain			750. 02
	Fog	S. W. 0	25 25		Fair Sleet	N. 1		98		Cloudy Fair	E. 1		
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Philosoph. Transact. Numb. 237. Tab. 2.

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II. A Letter of Mr. W. Derham, Rector of Upminster, dated Jan. 13. 169%. to Dr. Sloane, about a Contrivance to measure the Height of the Mercury in the Barometer, by a Circle on one of the Weather Plates, with a Register of the Weather, &c. for the Year 1697.

O my former Observations about the Barometer, give me leave to subjoin a Contrivance for meafuring the Height of the Mercury, which hath lately occurred to my Thoughts, and which in some Cases is more commodious, than that way with a crooked Tube (I spake of) This way is by a Circle on one of the Weather-plates, of any convenient Diameter. Divide this into 100 Parts (which are to answer the 100 Parts of an Inch.) The Index which pointeth to these Parts, must be driven round by a small wheel, like the Dialwheel of a Watch. This Wheel must be driven round by a strait Piece, like a small Ruler, with Teeth on one Edge thereof; every Inch whereof must contain just the same Number of Teeth as are in the Dial-wheel before mentioned; so as that by the thrusting up and down this toothed Ruler, you may at every Inch turn round the About the middle of this toothed Ruler, Index once. a fine Finger must be fixed to point exactly to the Height of the Mercury. And consequently by raising or depressing this Finger to the Height of the Mercury, you very exactly see, on the Circle, the Parts of an Inch, which the Mercury riseth or falleth in the Tube, by reafon the Circumference of the Circle is Three or more Inches about.

H This

This Description in Words may perhaps be sufficient,

but to prevent Obscurity, I have added a Figure.

Having proposed the nicest ways I can think of, for measuring the Variation of the Mercury on different Heights, there is one Difficulty (partly suggested to me by a correspondent Friend) which may be resolved hereby, which I have not yet had Opportunity to make trial of, and do therefore recommend it to others. that is, Whether the Mercury hath exactly the same Variation, on one and the same Height, at two different Times: viz. When the Mercury is high, as in fair Weather; or low, as in foul: I am inclined to think, That as the Atmosphere is heavier or lighter, so its pressure being more or less on the same Height, that consequently the Mercury riseth or falleth sometimes more, sometimes less on one and the same Height. As for Instance, If the Mercury sinketh it of an Inch at the Height of 82 Feet, when the Mercury standeth at 30 Inches in the Barometer, I Quære, Whether it will fink so much when the Barometer is at 29 Inches?

- Fig. 1. representeth the Circle and toothed Ruler, without the Interposition of the Weather-plate; that the Contrivance may be the better seen.
- A. A. The Ruler with Teeth, made to slide up and down.
- 6. The little Finger that pointeth to the Mercury's Height (which is placed higher on the toothed Rule than it ought to be, that it may be seen.)
 - c. c. c. c. The Index or Dial-wheel.
 - D. D. D. The Circle.
 - e. e. The Index.

The following Table explained, with Remarks upon it.

The First giveth the State of the Weather in the Morning, at Noon, and at Night. The Second the Bearing of the Winds. The Third, the Height of the Mercury in the Barometer, in Inches and Centesimals. The last the Quantity of Rain that fell every Day through a Tunnel of Twelve Inches Diameter, in Pounds and Centesimals of a Pound: At the Bottom of which Column is the Quantity of all the Rain that fell in the Month.

2. Where only one fort of Weather is noted upon one Day, that was the Weather of all the Day; especially if the Barometer be noted three times. The same observe also in the Column of Winds. Thus Jan. 2. it was a Misling Day, Wind S.

3. The uppermost Observation of each Day is the Morning Observation; the middlemost at Noon; the lowermost at Night. Or if a Desect be in any of those Three Places, no Observation was made at that time.

If you meet with [Rain] noted on the Line that parts

every Day, it fignifies rain fell in the Night.

- 4. The Time of observing at Night, was at Nine of the Clock all the Year. But the Morning Observations were all January at 8 of the Clock; all February, and to March 20. at 7 of the Clock; thence to the End of September at Six of the Clock; all October at Seven; all November and December at Eight: And this is the meaning of the Figures that follow the Name of every Month.
 - 5. The Strength of the Winds is noted in the Column

 H 2 of

of Winds, from March 25. The Reason I did it not before, was, because I did not think of it till Mr. Townley suggested it to me, Note, A Cypher signifies a Calm; 1,2,3, &c. denotes the Strength of the Wind; wherefore 5, or 6 is a little Storm; 7, or 8 a great Storm.

6. Where the Weather, Winds, or Rain are noted only in the Morning and at Night, it fignifies the Weather, Sc. all the Morning and Afternoon; especially if the

Barometer was observed at Noon.

7. The Defect of Observations from April 26. to May 16. was occasioned by my Absence in a Journey: Notwithstanding which, I took Care to have the Rain that fell, measured; tho' not on the Days it fell.

8. Forasmuch as the Quantity of Snow falling can't be well observed by the Tunnel, I have therefore in the Table noted the Depth of it on the Ground, as on Dec.

4, Gc.

9. The whole Quantity of Rain that fell through my Tunnel last Year, was 77,60 th. which is less than fell from the Beginning of March (at which time I began my Rain-Observations) till the End of December, 1696. In which Ten Months there fell here, at Opminster, almost 115 th. and at Townley in Lancashire (according to Mr. Townley's Observations) above 172 th. and in the whole Year at Townley 203, 75 th.

Twelve Inches Diameter (as I have faid) the Rain I measure with a Cylindrical Glass. But for a fuller Description, I refer to Mr. Townley's Account of his Meshod, in one of the Transactions of a former Year.



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